SIEMENS

Product data sheet 3RT2027-1BP40

CONTACTOR, AC-3, 15KW/400V, 1NO+1NC,
DC 230V, 3-POLE, SZ S0 SCREW TERMINAL

General technical data:		
product brand name		SIRIUS
Size of the contactor		S0
Product extension		
• auxiliary switch		Yes
• function module for communication		No
Protection class IP / on the front		IP20
Protection against electrical shock		finger-safe
Degree of pollution		3
Installation altitude / at a height over sea level / maximum	m	2,000
Ambient temperature		
• during storage	°C	-55 … +80
• during operating	°C	-25 … +60
Shock resistance		
• at rectangular impulse		
• at DC		10g / 5 ms, 7,5g / 10 ms
• at sine pulse		
• at DC		15g / 5 ms, 10g / 10 ms
Impulse voltage resistance / rated value	kV	6
Insulation voltage / rated value	V	690

Maximum permissible voltage for protective separation / between coil and main contacts / in accordance with EN 60947-1	V	400
Mechanical operating cycles as operating time		
• of the contactor / typical		10,000,000
• of the contactor with added auxiliary switch block / typical		10,000,000
• of the contactor with added electronics-compatible auxiliary switch block / typical		5,000,000

Main circuit:		
Number of NC contacts / for main contacts		0
Number of NO contacts / for main contacts		3
Connectable conductor cross-section / in main circuit		
• at AC-1		
• at 40 °C / minimum permissible	mm²	10
• at 60 °C / minimum permissible	mm²	10
Operating current		
• at AC-1 / up to 690 V		
• at 40 °C ambient temperature / rated value	A	50
• at 60 °C ambient temperature / rated value	A	42
• at AC-2 / at 400 V / rated value	A	32
• at AC-3		
• at 400 V / rated value	A	32
• at 500 V / rated value	A	32
• at 690 V / rated value	A	21
• at AC-4 / at 400 V / rated value	A	22
Operational current / for ≥ 200000 operating cycles / at AC-4		
• at 400 V / rated value	A	12
• at 690 V / rated value	A	12
Operating current		
• with 1 current path / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	4.5
• at 220 V / rated value	A	1
• at 440 V / rated value	A	0.4
• at 600 V / rated value	A	0.25
• with 2 current paths in series / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
• at 220 V / rated value	A	5
• at 440 V / rated value	A	1
• at 600 V / rated value	A	0.8

• with 3 current paths in series / at DC-1		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
• at 220 V / rated value	A	35
• at 440 V / rated value	A	2.9
• at 600 V / rated value	A	1.4
Operating current		
• with 1 current path / at DC-3 / at DC-5		
• at 24 V / rated value	A	20
• at 110 V / rated value	A	2.5
• at 220 V / rated value	A	1
• at 440 V / rated value	A	0.09
• at 600 V / rated value	A	0.06
• with 2 current paths in series / at DC-3 / at DC-5		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	15
• at 220 V / rated value	A	3
• at 440 V / rated value	A	0.27
• at 600 V / rated value	A	0.16
• with 3 current paths in series / at DC-3 / at DC-5		
• at 24 V / rated value	A	35
• at 110 V / rated value	A	35
• at 220 V / rated value	A	10
• at 440 V / rated value	A	0.6
• at 600 V / rated value	A	0.6
Operating performance		
• at AC-1 / at 230 V / rated value	kW	16
• at AC-1 / at 400 V / rated value	kW	28
• at AC-1 / at 690 V / rated value	kW	48
• at AC-2		
• at 400 V / rated value	kW	15
• at AC-3		
• at 230 V / rated value	kW	7.5
• at 400 V / rated value	kW	15
• at 690 V / rated value	kW	18.5
• at AC-4		
• at 400 V / rated value	kW	11
Operating performance / for ≥ 200000 operating cycles / at AC-4		
• at 400 V / rated value	kW	6
• at 690 V / rated value	kW	10.3

Thermal short-time current / restricted to 10 s	A	260
Active power loss / at AC-3 / at 400 V / with rated Operating current value / per conductor	W	2.7
Off-load operating frequency		
• at DC	1/h	1,500
Frequency of operation		
• with AC-1 / maximum	1/h	1,000
• with AC-2 / maximum	1/h	750
• with AC-3 / maximum	1/h	750
• with AC-4 / maximum	1/h	250

Control circuit/ Control:

Voltage type / of control feed voltage		DC
Control supply voltage		
• for DC / rated value	V	230
Operating range factor control supply voltage rated value / of the magnet coil		
• for DC		0.8 … 1.1
Pull-in power / of the solenoid / for DC	W	5.9
Holding power / of the solenoid / for DC	W	5.9
Closing delay		
• at DC	ms	50 … 170
Opening delay		
• at DC	ms	15 … 17.5
Arcing time	ms	10 … 10
Residual current / of electronics / for control with signal <0>		
• at 230 V / with AC / maximum permissible	mA	7
• at 24 V / with DC / maximum permissible	mA	16

Auxiliary circuit:

Contact reliability / of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)
Number of NC contacts / for auxiliary contacts / instantaneous switching		1
Number of NO contacts / for auxiliary contacts / instantaneous switching		1
Operating current		
• at AC-12 / maximum	A	10
• at AC-15		
• at 230 V / rated value	A	10
• at 400 V / rated value	A	3
• at 500 V / rated value	A	2
• at 690 V / rated value	A	1

Operating current / at DC-12		
• at 24 V / rated value	A	10
• at 48 V / rated value	A	6
• at 60 V / rated value	A	6
• at 110 V / rated value	A	3
• at 125 V / rated value	A	2
• at 220 V / rated value	A	1
• at 440 V / rated value	A	0.3
• at 600 V / rated value	A	0.15
Operating current / at DC-13		
• at 24 V / rated value	A	10
• at 48 V / rated value	A	2
• at 60 V / rated value	A	2
• at 110 V / rated value	A	1
• at 125 V / rated value	A	0.9
• at 220 V / rated value	A	0.3
• at 440 V / rated value	A	0.14
• at 600 V / rated value	A	0.1

UL/CSA ratings:

yielded mechanical performance [hp]		
• for single-phase squirrel cage motors		
• at 110/120 V / rated value	hp	2
• at 230 V / rated value	hp	5
• for three-phase squirrel cage motors		
• at 200/208 V / rated value	hp	10
• at 220/230 V / rated value	hp	10
• at 460/480 V / rated value	hp	20
• at 575/600 V / rated value	hp	25
Full-load current (FLA) / for 3-phase motor		
• at 480 V / rated value	A	27
• at 600 V / rated value	A	27
Contact rating designation / for auxiliary contacts / according to UL		A600 / Q600

Short-circuit:

Design of the fuse link		
• for short-circuit protection of the auxiliary switch / required		fuse gL/gG: 10 A
• for short-circuit protection of the main circuit		
• with type of assignment 1 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 100 A

• at type of coordination 2 / required		gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35A

Installation/ mounting/ dimensions:

mounting position		+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
Mounting type		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
Mounting type / series installation		Yes
Width	mm	45
Height	mm	85
Depth	mm	107
Distance, to be maintained, to the ranks assembly / sidewards	mm	0

Connections/ terminals:

Design of the electrical connection		
• for main current circuit		screw-type terminals
• for auxiliary and control current circuit		screw-type terminals
• for main contacts / finely stranded / with conductor end processing		2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²
• for AWG conductors / for main contacts		2x (16 ... 12), 2x (14 ... 8)
• for auxiliary contacts / finely stranded / with conductor end processing		2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
• for AWG conductors / for auxiliary contacts		2x (20 ... 16), 2x (18 ... 14)

Safety related data:

B10 value / with high demand rate		
• according to SN 31920		1,000,000
T1 value / for proof test interval or service life		
• according to IEC 61508	a	20
Proportion of dangerous failures		
• with low demand rate / according to SN 31920	%	40
• with high demand rate / according to SN 31920	%	73
Failure rate [FIT] / with low demand rate		
• according to SN 31920	FIT	100
Product function		
• mirror contact to IEC 60947-4-1		Yes
• positively driven operation to IEC 60947-5-1		No

Certificates/ approvals:

General Product Approval				EMC	Functional Safety / Safety of Machinery
CCC	CSA		UL	C-TICK	Type Examination
Declaration of Conformity	**Test Certificates**				
EG-Konf.	Special Test Certificate	Type Test Certificates/Test Report			
Shipping Approval					
ABS	BUREAU VERITAS	DNV	GL	LRS	PRS
Shipping Approval		**other**			
RINA	RMRS	Confirmation	VDE	Environmental Confirmations	

Further information:

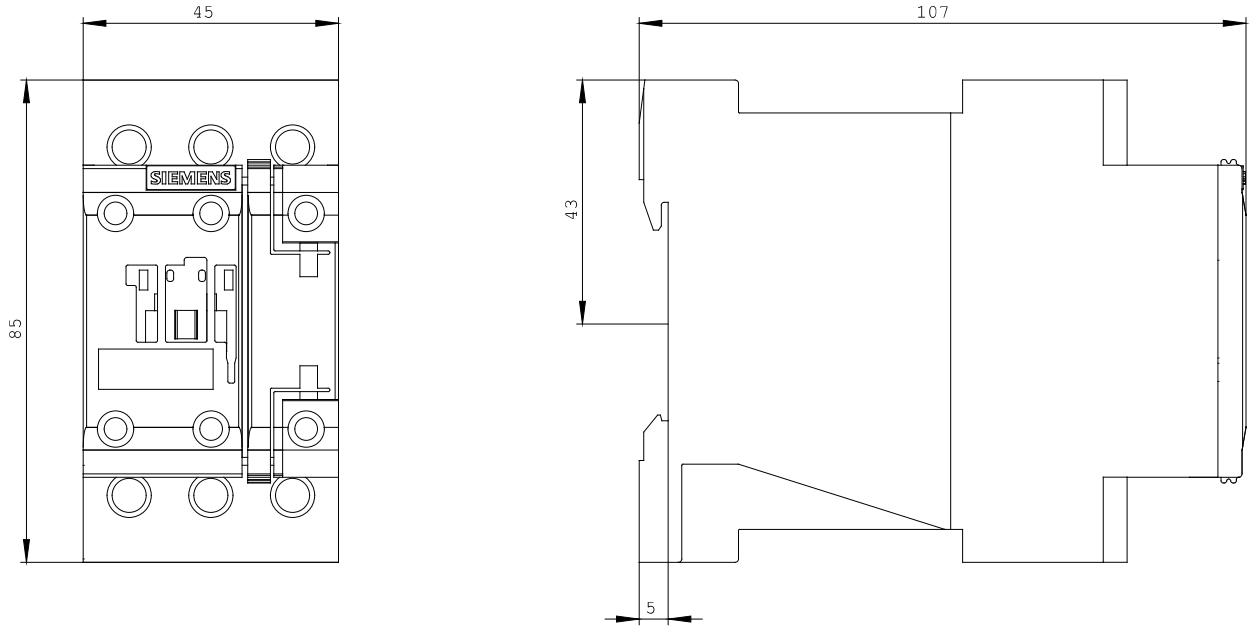
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

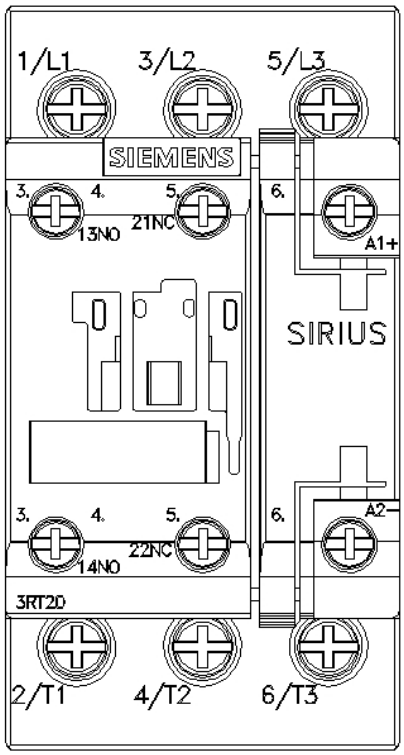
Industry Mall (Online ordering system)
http://mall.industry.siemens.com/

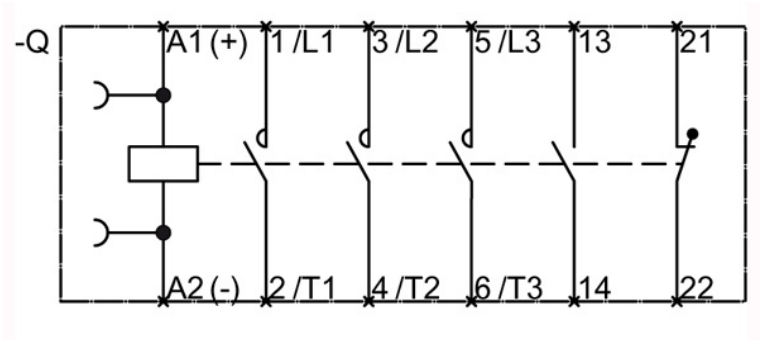
Cax online generator
http://www.siemens.com/cax

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RT2027-1BP40/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2027-1BP40







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